Remarks

Claims 19-23 and 25-42 are now pending in this application. Applicants have amended claims 19 and 29 and cancelled claim 24 to clarify the present invention. Applicants respectfully request favorable reconsideration of this application.

The present invention as recited in claim 19 relates to an installation for transmission of electric power via a high-voltage ac line. The installation includes an extruded cable extending between two switchgear units. Typically, very high capacitive currents that are generated in such long cables the current handling capacity of such lines is unacceptably low. The present invention as recited in claim 19 can increase the current handling capacity.

The present invention can also overcome disadvantages of prior solutions. Such prior solutions include non-isolated overhead lines and cables with insulation of oil-impregnated paper. A major disadvantage of non-isolated overhead lines is the impact and disturbing influence on nature and living beings. The present invention can address this issue also.

The use of cables with insulation of oil-impregnated paper is found to be too expensive to constitute a realistic alternative to the use of extruded cables, which the present invention utilizes.

An object of increasing the current handling capacity is solved by the use of one or more inductors for reactive shunt compensation. The integration of one or more inductors into the

cable permits a reactive power compensation to be made at a reasonably low cost compared to other solutions involving switchgear units, as described at page 3, lines 4-8. The integration of inductors and their relatively low cost makes it possible to use a relatively thin cable for a given voltage level. With a thinner cable it is possible for a larger quantity of cable to be kept on a drum, which implies fewer joints and a lower cost solution. This is described at page 3, lines 10-24.

One feature of the present invention as recited in claim 19 is that at least one inductor is integrated into the cable. The cable is lead through a casing, which is located at ground potential. The at least one inductor is arranged in the casing and connected by a first end to the electric conductor and by a second end to the casing. This is described in the specification at, among other passages, page 2, lines 21-31, and page 3, lines 26-31, and is shown in Figs. 3, 6 and 7.

The Examiner previously rejected claims 1-3, 5, 8, 9, 11, and 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 3,942,100 to Kauferle et al. in view of U.S. patent 4,785,138 to Breitenbach et al. The Examiner previously rejected claims 4 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. in view of U.S. patent 5,716,574 to Kawasaki. The Examiner previously rejected claims 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. in view of Japanese patent document JP 06-261456. The Examiner previously rejected claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. in view of European patent 0 825 465 to Johansen. The Examiner previously rejected claims 14-

17 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. in view of U.S. patent 6,441,712 to Ainsworth.

The previously cited combination of Kauferle et al. and Breitenbach et al. does not suggest the present invention as recited in claim 19 since, among other things, the combination does not suggest an installation for transmission of electric power that includes a cable, at least one inductor and a casing arranged at ground potential through which the cable is lead and in which the at least one inductor is arranged. Rather, Kauferle et al. suggests an installation for transmission of electric power that includes a transmission line "f" and a choke "b" located along the line "f", wherein the choke "b" is connected between the line "f" and ground. This is described in Kauferle et al. at col. 2, line 23-40 and is shown in Fig. 1.

The structure of Kauferle et al. does not suggest the present invention as recited in amended claim 19, since Kauferle et al. does not even suggest a cable. In fact, Kauferle et al. does not suggest any of the problems related to capacitive currents generated in transmission lines that include a cable. Additionally, Kauferle et al. also does not suggest problems that capacitive currents increase with the length of the transmission line. Kauferle et al. provides a reactive power compensator to solve other problems such as instabilities in line frequency and voltage and transient overvoltages due to abrupt changes in operating conditions such as load drop-off. Kauferle et al. does not suggest the present invention as rectied in claim 19 since integration is not an option for overhead lines. Without an integrated, compact, low-cost solution, the size will increase as well as the cost for construction and installation.

On the other hand, Breitenbach et al. suggests an extruded cable 3 including an inner electric conductor 5, an insulating layer 8 surrounding the conductor 5, and an outer screen layer 10 located at ground potential. This is described at col. 1, lines 51-66. The electric cable suggested by Breitenbach et al. satisfies the requirements of a phase winding of a linear motor. Breitenbach et al. does not identify or suggest a solution to problems of increased capacitive load with increasing length of a cable since the physical conditions in the field of phase windings of linear motors regarding voltages, currents, length and size of cables etc. are totally different from the field of power transmission.

Therefore, one of ordinary skill in the art would not look to Breitenbach et al. to solve problems related to transmission of electric power since Breitenbach et al. relates to a different technical field. Along these lines, Breitenbach et al. relates to phase windings of linear motors. Even if one of ordinary skill in the art were consider the teachings of Breitenbach et al., Breitenbach et al.does not include any suggetion of how to integrate auxiliary means into a cable.

The other previously cited references appear to suggest aspects of the composition of a cable, arrangement of a cable, or power levels. As such, these additional references do not overcome the above-described deficiencies of either Breitenbach et al. or Kauferle et al.

In view of the above, the previously cited references, whether considered alone or in combination, do not suggest patentable features of the present invention. Therefore, the previously cited references relied, whether considered alone or in combination, do not make the present invention obvious. Accordingly, Applicant submits that the present invention is

patentable over the previously cited references.

If an interview would advance the prosecution of this application, Applicant respectfully urges the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge insufficient fees and credit overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

Date: 7/10/07

Eric J. Franklin, Reg. No. 37,134
Attorney for Applicants
Venable LLP
575 7th Street, NW
Washington, DC 20004
Telephone: 202-344-4936